

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Claims 12-18 have been amended, and claims 19 and 20 have been cancelled. Claims 21 and 22 have been newly added. Support for the subject matter of the amended claims is provided in Fig. 6 and paragraphs [0053]-[0056], [0068]-[0073], [0076], and [0081] of the published specification. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

Claim 16 has been amended to overcome the 35 USC 112, first paragraph, rejection applied thereto. More specifically, the claimed subject matter of storing a constant that is determined by dividing phase distortion by the magnitude of phase change finds support in Fig. 6 and paragraph [0076] of the published specification, which reads "the parameter stored in storage section 103 can be obtained by ... dividing the obtained phase distortion by the magnitude of the phase change between adjacent data from equation (4)." Additionally, the claimed subject matter of compensating beforehand the phase distortion determined by multiplying the constant stored in the storage by the magnitude of the frequency change with respect to the first baseband phase signal finds support in paragraphs [0053]-[0056] and [0081] of the specification. More specifically, the specification discloses: (1) calculating a phase distortion using a magnitude of a frequency change obtained from a generated baseband phase signal, a calculation equation, and a parameter stored in a storage section 103 and (2) compensating the baseband phase signal input

for the calculated phase distortion (see paragraph [0081]). Therefore, withdrawal of the 35 USC 112, first paragraph, rejection of claim 16 and allowance thereof is deemed to be warranted.

Claims 12 and 17-20 were rejected, under 35 USC §102(b), as being anticipated by Posti (US 2002/0021764). Claims 13-15 were rejected, under 35 USC §103(a), as being unpatentable over Posti (US 2002/0021764). To the extent these rejections may be deemed applicable to the amended and new claims presented herein, the Applicants respectfully traverse based on the points set forth below.

Claim 12 now recites a modulation apparatus having: (1) a phase comparator that finds the phase distortion between the phase of a modulated signal and the phase of a reference signal; (2) a voltage control oscillator that generates an oscillation frequency as a modulated output signal, the oscillation frequency being determined by a control signal indicating the phase distortion found in a phase comparator; and (3) a frequency converter that converts a frequency of the modulated output signal generated in the voltage control oscillator and generates a frequency converted signal. The claimed subject matter provides an advantage of pre-compensating a baseband signal, based on a phase change between adjacent data of the baseband signal and a predetermined constant, for phase distortion induced by a modulation process, so as to accurately compensate the phase distortion without using highly accurate timing control or amplitude modulation (see specification page 9, line 10, through page 10, line 3).

Posti does not disclose the Applicants' claimed comparator, voltage control oscillator, and frequency converter. Thus, Posti's configuration cannot compensate phase distortion in a phase locked loop modulator without using an amplitude component.

Accordingly, the Applicants respectfully submit that Posti does not anticipate the subject matter now defined by claim 12. Independent claim 22 similarly recites the above-mentioned subject matter distinguishing apparatus claim 12 from the applied references, but with respect to a method. Therefore, the rejections applied to claims 13-15 are obviated, and allowance of claims 12 and 22 and all claims dependent therefrom is considered to be warranted.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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